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TOWNSEND and TOWNSEND and CREW LLP

By: Brien M. Bergner

PATENT
Attorney Docket No.: 082368-006500US
Client Reference No.: E1-A0404Y1P-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Yoshimasa SAKAMOTO et al.

Application No.: 10/552,485

International Filing Date: July 22, 2005

For: LRP4/CORIN DOPAMINERGIC
NEURON PROGENITOR CELL
MARKERS

Confirmation No.: 1941

Examiner: Not Yet Assigned

Art Unit: 1646

**INFORMATION DISCLOSURE
STATEMENT UNDER 37 CFR §1.97 and
§1.98**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. Copies of references 0001 and 0002 are not enclosed in compliance with the requirements of 37 CFR §1.98(a)(2). Copies of 0003-0046 and 0048-0056 are enclosed. It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

Reference 0023 is not in English. Reference 0003 is a corresponding application of such and is submitted as a translation thereof.

Reference 0024 is not in English. Reference 0004 is a corresponding application of such and is submitted as a translation thereof.

Reference 0025 is not in English. Reference 0006 is a corresponding application of such and is submitted as a translation thereof.

Reference 0026 is not in English. Reference 0007 is a corresponding application of such and is submitted as a translation thereof.

Reference 0027 is not in English. Reference 0005 is a corresponding application of such and is submitted as a translation thereof.

Reference 0028 is not in English. Reference 0008 is a corresponding application of such and is submitted as a translation thereof.

Reference 0029 is not in English. Reference 0010 is a corresponding application of such and is submitted as a translation thereof.

Reference 0030 is not in English. Reference 0009 is a corresponding application of such and is submitted as a translation thereof.

Reference 0031 is not in English. Reference 0011 is a corresponding application of such and is submitted as a translation thereof.

Reference 0032 is not in English. Reference 0012 is a corresponding application of such and is submitted as a translation thereof.

Reference 0033 is not in English. A computer-generated translation is attached hereto.

Reference 0034 is not in English. Reference 0013 is a corresponding application of such and is submitted as a translation thereof.

Reference 0035 is not in English. Reference 0016 is a corresponding application of such and is submitted as a translation thereof.

References 0018-0020 and 0047 were cited in an International Search Report in a corresponding PCT application. A copy of the Search report is also enclosed. References 0018-0020 are enclosed. Reference 0047 is *not* enclosed as it should have been provided directly the WIPO under the exchange program between the USPTO, the EPO, and the JPO. Reference 0047 is categorized as "P" and "Y" on the International Search Report.

As provided for by 37 CFR §1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no

representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

/Kevin Bastian/

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60858300 v1

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
Sheet	1	of	5	Application Number	10/552,485
				International Filing Date	July 22, 2005
				First Named Inventor	Sakamoto, Yoshimasa
				Art Unit	1646
				Examiner Name	Not Yet Assigned
				Attorney Docket Number	082368-006500US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	0001	US-5,690,927 A	11-25-1997	MAJOR, Eugene O., et al.	
	0002	US-6,277,820 B1	08-21-2001	ROSENTHAL, Arnon, et al.	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)				
	0003	WO	94/23754	A1	10-27-1994	The Government of the United States of America (National Institutes of Health)		<input type="checkbox"/>
	0004	WO	95/12982	A1	05-18-1995	The Trustees of the University of Pennsylvania		<input type="checkbox"/>
	0005	WO	96/14397	A1	05-17-1996	Diacrin, Inc.		<input type="checkbox"/>
	0006	WO	96/14398	A1	05-17-1996	Diacrin, Inc.		<input type="checkbox"/>
	0007	WO	96/14399	A1	05-17-1996	Diacrin, Inc.		<input type="checkbox"/>
	0008	WO	96/28030	A1	09-19-1996	University of South Florida		<input type="checkbox"/>
	0009	WO	96/28174	A1	09-19-1996	University of South Florida		<input type="checkbox"/>
	0010	WO	96/39496	A1	12-12-1996	The Government of the United States of America (National Institutes of Health)		<input type="checkbox"/>
	0011	WO	97/02049	A1	01-23-1997	Emory University		<input type="checkbox"/>
	0012	WO	99/43286	A2, A3	09-02-1999	MCP Hahnemann University		<input type="checkbox"/>
	0013	WO	99/56759	A1	11-11-1999	University of South Florida		<input type="checkbox"/>
	0014	WO	99/64608	A1	12-16-1999	Schering Aktiengesellschaft		<input type="checkbox"/>
	0015	WO	00/06700	A1	02-10-2000	Layton Bioscience, Inc.		<input type="checkbox"/>
	0016	WO	00/09669	A1	02-24-2000	Signal Pharmaceuticals, Inc.		<input type="checkbox"/>
	0017	WO	01/57194	A2, A3	08-09-2001	Corvas International, Inc.		<input type="checkbox"/>
	0018	WO	2002/074906	A2	09-26-2002	Eli Lilly and Company		<input type="checkbox"/>
	0019	WO	2002/103007	A1	12-27-2002	Eisai Co., Ltd.		<input type="checkbox"/>
	0020	WO	2004/038018	A1	05-06-2004	Eisai Co., Ltd.		<input type="checkbox"/>
	0021	WO	2004/065599	A1	08-05-2004	Eisai Co., Ltd.		<input checked="" type="checkbox"/>
	0022	WO	2005/052190	A1	06-09-2005	Eisai Co., Ltd.		<input type="checkbox"/>
	0023	JP	8-509215	A	10-01-1996	The Government of the United States of America (National Institutes of Health)		<input type="checkbox"/>
	0024	JP	9-505054	A	05-20-1997	The Trustees of the University of Pennsylvania		<input type="checkbox"/>
	0025	JP	10-508487	A	08-25-1998	Diacrin, Inc.		<input type="checkbox"/>
	0026	JP	10-508488	A	08-25-1998	Diacrin, Inc.		<input type="checkbox"/>
	0027	JP	10-509034	A	09-08-1998	Diacrin, Inc.		<input type="checkbox"/>
	0028	JP	11-501818	A	02-16-1999	University of South Florida		<input type="checkbox"/>

Examiner Signature	Date Considered
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¹EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ² Applicant's unique citation designation number (optional). ² Kind Codes of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

60858300 v1

<p>Substitute for form 1449A/PTO</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p><i>(Use as many sheets as necessary)</i></p>				Complete if Known	
				Application Number	10/552,485
				International Filing Date	July 22, 2005
				First Named Inventor	Sakamoto, Yoshimasa
				Art Unit	1646
				Examiner Name	Not Yet Assigned
Sheet	2	of	5	Attorney Docket Number	082368-006500US

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)			
	0029	JP	11-506930	A	06-22-1999	The Government of the United States of America (National Institutes of Health)	<input type="checkbox"/>
	0030	JP	11-509170	A	08-17-1999	University of South Florida	<input type="checkbox"/>
	0031	JP	11-509729	A	08-31-1999	Emory University	<input type="checkbox"/>
	0032	JP	2002-504503	A	02-12-2002	MCP Hahnemann University	<input type="checkbox"/>
	0033	JP	2002-051775	A	02-19-2002	Japan Science and Technology Corporation	<input checked="" type="checkbox"/>
	0034	JP	2002-513545	A	05-14-2002	University of South Florida	<input type="checkbox"/>
	0035	JP	2002-522070	A	07-23-2002	Signal Pharmaceuticals, Inc.	<input type="checkbox"/>

Examiner Signature	Date Considered
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⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	10/552,485
(Use as many sheets as necessary)				International Filing Date	July 22, 2005
				First Named Inventor	Sakamoto, Yoshimasa
				Art Unit	1646
				Examiner Name	Not Yet Assigned
Sheet	3	of	5	Attorney Docket Number	082368-006500US

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
	0036	BARBERI, Tiziano, <i>et al.</i> ; "Neural subtype specification of fertilization and nuclear transfer embryonic stem cells and application in Parkinsonian mice"; <u>Nature Biotechnology</u> ; October 2003; pp. 1200-07; Vol. 21, No. 10.			<input type="checkbox"/>
	0037	BJÖRKLUND, Lars M., <i>et al.</i> ; "Embryonic stem cells develop into functional dopaminergic neurons after transplantation in a Parkinson rat model"; <u>PNAS: Proceedings of the National Academy of Sciences of the United States of America</u> ; February 19, 2002; pp. 2344-49; Vol. 99, No. 4.			<input type="checkbox"/>
	0038	DEFER, Gilles-Louis, <i>et al.</i> ; "Long-term outcome of unilaterally transplanted Parkinsonian patients"; <u>Brain</u> ; 1996; pp. 41-50; Vol. 119.			<input type="checkbox"/>
	0039	FREED, Curt R., <i>et al.</i> ; "Survival of implanted fetal dopamine cells and neurologic improvement 12 to 46 months after transplantation for Parkinson's disease"; <u>The New England Journal of Medicine</u> ; November 26, 1992; pp. 1549-55; Vol. 327, No. 22.			<input type="checkbox"/>
	0040	HOOPER, John D., <i>et al.</i> ; "Localization of the mosaic transmembrane serine protease corin to heart myocytes"; <u>The FEBS Journal (Formerly European Journal of Biochemistry)</u> ; 2000; pp. 6931-37; Vol. 267.			<input type="checkbox"/>
	0041	KAWASAKI, Hiroshi, <i>et al.</i> ; "Generation of dopaminergic neurons and pigmented epithelia from primate ES cells by stromal cell-derived inducing activity"; <u>PNAS: Proceedings of the National Academy of Sciences of the United States of America</u> ; February 5, 2002; pp. 1580-85; Vol. 99, No. 3.			<input type="checkbox"/>
	0042	KIM, Jong-Hoon, <i>et al.</i> ; "Dopamine neurons derived from embryonic stem cells function in an animal model of Parkinson's disease"; <u>Nature</u> ; July 4, 2002; pp. 50-56; Vol. 418.			<input type="checkbox"/>
	0043	KORDOWER, Jeffrey H., <i>et al.</i> ; "Neuropathological evidence of graft survival and striatal reinnervation after the transplantation of fetal mesencephalic tissue in a patient with Parkinson's disease"; <u>The New England Journal of Medicine</u> ; April 27, 1995; pp. 1118-24; Vol. 332, No. 17.			<input type="checkbox"/>
	0044	LEE, Sang-Hun, <i>et al.</i> ; "Efficient generation of midbrain and hindbrain neurons from mouse embryonic stem cells"; <u>Nature Biotechnology</u> ; June 2000; pp. 675-79; Vol. 18, No. 6.			<input type="checkbox"/>
	0045	LINDVALL, Olle, <i>et al.</i> ; "Human fetal dopamine neurons grafted into the striatum in two patients with severe Parkinson's disease"; <u>Archives of Neurology</u> ; June 1989; pp. 615-31; Vol. 46, No. 6.			<input type="checkbox"/>
	0046	LOPEZ-LOZANO, J. J., <i>et al.</i> ; "Regression of Parkinsonian fetal ventral Mesencephalon grafts upon withdrawal of Cyclosporine A immunosuppression"; <u>Transplantation Proceedings</u> ; February-March 1997; pp. 977-80; Vol. 29, Nos. 1-2.			<input type="checkbox"/>
	0047	SAKAMOTO, Yoshimasa, <i>et al.</i> ; "Saibomaku hyomen maker o mochiita dopamine sansei neuron zenku saibo no bunri"; <u>Annual Meeting of the Molecular Biology Society of Japan Program</u> ; November 25, 2004; p. 762; Vol. 27.			<input type="checkbox"/>

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¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449B/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	10/552,485
(Use as many sheets as necessary)				International Filing Date	July 22, 2005
Sheet	4	of	5	First Named Inventor	Sakamoto, Yoshimasa
				Art Unit	1646
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				Attorney Docket Number	082368-006500US

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	0048	SAWAMOTO, Kazunobu, <i>et al.</i> ; "Generation of dopaminergic neurons in the adult brain from mesencephalic precursor cells labeled with a <i>nestin-GFP</i> transgene"; <u>The Journal of Neuroscience</u> ; June 1, 2001; pp. 3895-903; Vol. 21, No. 11.	<input type="checkbox"/>
	0049	SAWAMOTO, Kazunobu, <i>et al.</i> ; "Visualization, direct isolation, and transplantation of midbrain dopaminergic neurons"; <u>PNAS: Proceedings of the National Academy of Sciences of the United States of America</u> ; May 22, 2001; pp. 6423-28; Vol. 98, No. 11.	<input type="checkbox"/>
	0050	SELAWRY, H. P. and D. F. Cameron; "Sertoli cell-enriched fractions in successful islet cell transplantation"; <u>Cell Transplantation</u> ; March-April 1993; pp. 123-29; Vol. 2, No. 2.	<input type="checkbox"/>
	0051	SPENCER, Dennis D., <i>et al.</i> ; "Unilateral transplantation of human fetal mesencephalic tissue into the caudate nucleus of patients with Parkinson's disease"; <u>The New England Journal of Medicine</u> ; November 26, 1992; pp. 1541-48; Vol. 327, No. 22.	<input type="checkbox"/>
	0052	STUDER, Lorenz, <i>et al.</i> ; "Transplantation of expanded mesencephalic precursors leads to recovery in Parkinsonian rats"; <u>Nature Neuroscience</u> ; August 1998; pp. 290-95; Vol. 1, No. 4.	<input type="checkbox"/>
	0053	WIDNER, Hakan, <i>et al.</i> ; "Bilateral fetal mesencephalic grafting in two patients with Parkinsonism induced by 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP)"; <u>The New England Journal of Medicine</u> ; November 26, 1992; pp. 1556-63; Vol. 327, No. 22.	<input type="checkbox"/>
	0054	YAN, Wei, <i>et al.</i> ; "Corin, a Mosaic Transmembrane Serine Protease Encoded by a Novel cDNA from Human Heart"; <u>The Journal of Biological Chemistry</u> ; May 21, 1999; pp. 14926-935; Vol. 274, No. 21.	<input type="checkbox"/>
	0055	YOSHIZAKI, Takahito, <i>et al.</i> ; "Isolation and transplantation of dopaminergic neurons generated from mouse embryonic stem cells"; <u>Neuroscience Letters</u> ; June 3, 2004; pp. 33-37; Vol. 363, No. 1.	<input type="checkbox"/>
	0056	ZHAO, Suling, <i>et al.</i> ; "Generation of embryonic stem cells and transgenic mice expressing green fluorescence protein in midbrain dopaminergic neurons"; <u>European Journal of Neuroscience</u> ; March 2004; pp. 1133-1140; Vol. 19, No. 5.	<input type="checkbox"/>

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